OZONE DRYER

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Abstract of **CA1256284**

The present invention relates to a method of drying and purifying articles of clothing and the like, and a dryer for carrying out the method of the present invention. The method comprises subjecting the articles to air circulated within a generally closed chamber and further introducing ozone into the chamber. The dryer itself includes an air inlet to the chamber with an ozone unit, which is preferably located at the air inlet for introducing the ozone with the air circulated within the chamber.

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(19) (CA) **CANADIAN PATENT** (12)

(54) Ozone Dryer

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ABSTRACT OF THE DISCLOSURE

The present invention relates to a method of drying and purifying articles of clothing and the like, and a dryer for carrying out the method of the present invention. The method comprises subjecting the articles to air circulated within a generally closed chamber and further introducing ozone into the chamber. The dryer itself includes an air inlet to the chamber with an ozone unit, which is preferably located at the air inlet for introducing the ozone with the air circulated within the chamber.

FIELD OF THE INVENTION:

The present invention relates to a method of drying and purifying articles of clothing, and the like, using heated air and ozone for attacking bacterial contamination of the clothing.

BACKGROUND OF THE INVENTION:

Probably the most common method of cleaning clothing, bed sheets, or other similar articles, is to water wash the articles, using detergents, bleaches, etcetera, in a washing machine. After the washing cycle has been completed, the articles are then generally placed in a heated dryer.

This method, which is common to both residential, as well as industrial situations, such as hospitals, does not ensure elimination of bacterial contamination of the articles. The washing cycle is effective against visible stains, and the like, however, it does not necessarily kill bacteria and germ spores, which are particularly prevalent in hospital environments.

SUMMARY OF THE PRESENT INVENTION:

The present invention provides a method of drying and purifying articles of clothing, and the like, applicable to both residential and industrial uses. The method comprises subjecting the articles to air circulated within a generally closed chamber, and further introducing ozone into that chamber. The ozone, which is known to attack bacteria, microbes and germs, provides purification of the articles in the chamber.

BRIEF DISCUSSION OF THE DRAWINGS:

The above, as well as other advantages and features of the present invention will be described in greater detail, according to the preferred embodiments of the present invention in which:

Figure 1 is a partially cut-away, perspective view of a dryer, incorporating an ozone-producing unit, according to a preferred embodiment of the present invention;

DETAILED DESCRIPTION ACCORDING TO PREFERRED EMBODIMENTS OF THE PRESENT INVENTION:

Figure 1 shows a dryer, generally indicated at 1. This dryer will vary in size, or capacity, depending upon its use, i.e., either in a residential application, or in an industrial application, such as a hospital, or the like, where the dryer will be of increased drying capacity.

The dryer comprises an internal drying chamber 3, which includes a conventional rotating drum 4, for tumble drying of articles of clothing, bed sheeting, or any other appropriate articles, to be placed in the dryer. These articles will have already been washed for soil and dirt removal so that they are wet from the washing, however, conventional washing techniques do not eliminate the growth of certain types of bacteria, microbe and germs, which remain with the articles, even after they have been wet-washed. However, the present invention is specifically directed to overcome this difficulty, as described below.

The articles when placed in the dryer are subjected to a drying action by means of heated air circulated within the drying chamber and introduced through an air intake comprising inlet 7 and air passage 5 directing the air to the rotating drum by a blower within the dryer but not shown. Again, in accordance with conventional practice this air is heated by means of a heater positioned along the air intake.

However in contrast to conventional practice dryer 1 further includes an ozone producing unit 9 mounted directly at the air intake to the dryer. Accordingly, the ozone or O3 produced at unit 9 is moved by the blower along the flow path with the heated air through passage 5 and circulated within the drying chamber. The air is then discharged out through the back of the dryer through an air outlet adjacent inlet 7 and again not shown.

The effect of the ozone is to purify the clothing by attacking any bacterial microbe or germ spores which may have contaminated the clothing. This ozone is best produced by an electrical corona grid across the air passage or inlet as shown.

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According to the arrangement shown in the drawings, dryer 1 includes a timer 11, which sets the operating time for the dryer, and which also controls the operating time for the ozone producing unit. With this arrangement, any time the dryer is in operation, the ozone unit in turn operates to produce ozone fed through the blower, to the drying chamber. Through this arrangement, in which the ozone unit is set to automatically operate at all times when the dryer is in operation, there is no need to add any separate chemical purifiers, fresheners, cloth or tissue purifiers, or the like, which can otherwise be easily forgotten.

The ozone which is introduced into the dryer chamber provides a totally natural and extremely effective purification while the articles are being dryed. This is particularly important to areas such as hospitals, where major steps have been taken to prevent the cross contamination between rooms and patients. The present invention would provide an advance in this area for use in drying laundered gowns of the doctors, nurses, patients, beddings, etcetera. The dryer of the present invention would also have substantial benefits in prisons, or jails, nursing homes, coin laundrymats, dry cleaning plants, as well as any other area, including residential uses, where these types of articles are laundered.

Although various preferred embodiments of the present invention have been described herein in detail, it will be appreciated by those skilled in the art, that variations may be made thereto without departing from the spirit of the invention or the scope of the appended claims.

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A dryer with purification comprising an internal tumble chamber for receiving articles of clothing and the like to be dried and purified, an air passage with an inlet rearwardly in said dryer and defining a flow path to said internal tumble chamber, a blower for moving a supply of air under pressure along said air passage from said inlet and into said chamber, a heater for heating said supply of air and an ozone producing corona grid positioned directly in said flow path for producing ozone carried with said supply of air through said air intake to said chamber.

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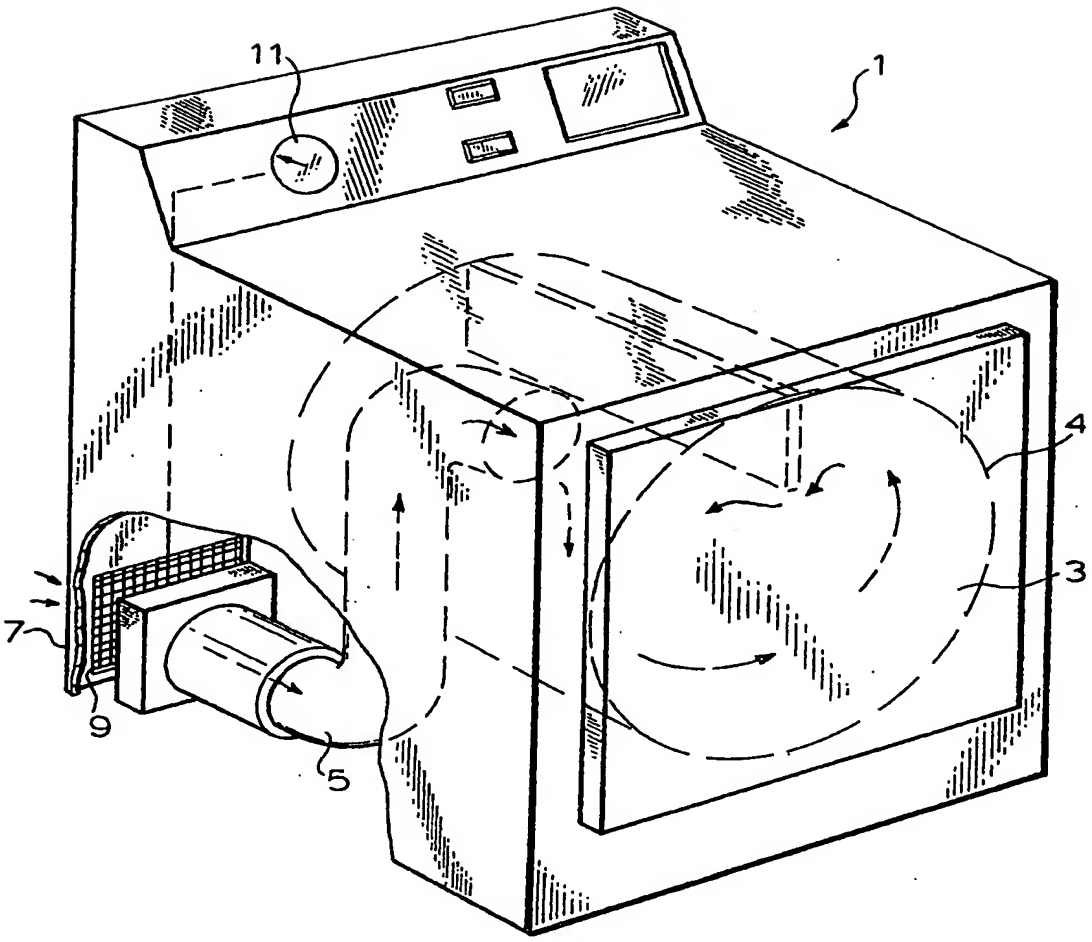
FIG.1.



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